

The following Listing of Claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS:

1. (Cancelled).
2. (Cancelled).
3. (Cancelled).
4. (Cancelled).
5. (Cancelled).
6. (Cancelled).
7. (Cancelled).

8. (Original) Single-ended differential RF mixer circuit comprising:

first complementary unit having first and second complementary devices which have first, second, and third terminals, respectively, wherein current flowing from the second terminal to the third terminal has its quantity and direction being varying in dependant on the voltage driven to the first terminal, wherein the currents flowing through the first and second complementary devices vary in opposite relationship;

second complementary unit having third and fourth complementary devices which have first, second, and third terminals, respectively, wherein current flowing from the second terminal to the third terminal has its quantity and direction being varying in dependant on the voltage driven to the first terminal, wherein the currents flowing through the first and second complementary devices vary in opposite relationship;

first input terminal connected to the first terminals of said first and second complementary devices;

second input terminal connected to the first terminals of said third and fourth complementary devices; and

biasing means connected to the first, second and third terminals of the first and second devices, for determining biasing points of the first and second complementary devices such that the third terminals of the first and second complementary devices are maintained at a predetermined voltage value with respect to the second terminals of the first and second complementary devices and for determining biasing points of the third and fourth complementary devices such that the third terminals of the third and fourth complementary devices are maintained at a predetermined voltage value with respect to the second terminals of the third and fourth complementary devices, and

wherein impedance values at the third terminals vary in accordance with variation of a signal driven to the first terminals of said first through fourth complementary devices, when the first through fourth complementary devices are biased such that voltage values at the second and third terminals are adjusted to a predetermined value.

9. (Original) The Single-ended differential RF mixer circuit of Claim 8, further comprising means for driving the third terminals of the first and third complementary

devices and the second terminals of the second and fourth complementary devices with a signal having a predetermined frequency.

10. (Original) The single-ended differential RF mixer circuit of Claim 9, wherein said biasing means determines biasing points of the first and second complementary devices such that

current flowing from the second terminal to the third terminal of the first complementary device is in opposite phase to current flowing from the second terminal to the third terminal of the second complementary device in accordance with the polarity of the signal driven to the first input terminal and

current flowing from the second terminal to the third terminal of the third complementary device is in opposite phase to current flowing from the second terminal to the third terminal of the fourth complementary device in accordance with the polarity of the signal driven to the second input terminal.

11. (Original) The single-ended differential RF mixer circuit of Claim 10, wherein said first and third complementary devices are N type MOSFET and said second and fourth complementary devices are P type MOSFET.

12. (Cancelled).

13. (Cancelled).

14. (Cancelled).